

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert Griffith on September 18, 2008.

The application has been amended as follows: Currently amended claim 4 is amended to recite a computer implemented system comprising a neural network for decoding encoded communications.

**IN THE CLAIMS:**

Claim 4 has been amended as follows:

4. (Currently Amended) A computer implemented system comprising a neural network for decoding encoded communications in which input symbols are convolutionally encoded to provide, for each input symbol, a plurality of output symbols which depend on the input symbol, connected so as to feed back to inputs of the network at least some of the decoded symbols it generates at its outputs, wherein at least one of the decoded

symbols corresponding to the input symbol and the plurality of output symbols is output from the network, and at least one of the input symbols is provided to the communications network decoder together with the coded output symbols, and are input together with the feed-back decoded symbols.

2. The following is an examiner's statement of reasons for allowance: amended claims 1, 3, and 4 are considered allowable since when reading the claims in light of the specification, none of the references of record alone or in combination disclose or suggest the combination of limitations specified in the independent claims, specifically wherein the input symbol is provided to the decoder with the plurality of output symbols as disclosed in independent claim 1 of the instant application (as defined at p. 3, line 24 to p. 4, line 5 of the specification of the instant application).

3. A practical application for the invention is disclosed on page 4 of the specification: "In another aspect, the invention is concerned with communication systems. There are, at present, many methods of processing signals in communications systems,

including different methods of modulating and demodulating; channel coding and decoding, and compression coding and decoding. One approach which has been discussed is that described as "software radio". Here, the idea is to provide a receiver or transceiver (with a universal RF or other air interface layer), which can be re-programmed to apply different channel coding and/or compression coding and/or modulation or de-modulation.

One benefit of such a system is that programs can be stored at the receiver or transceiver for multiple different technical standards, so that a given device can be employed in several different communication modes, or can be moved from one jurisdiction to another."

4. The claimed computer readable medium has been interpreted as being a custom VLSI circuit comprising a rectangular array of neurons on a substrate as disclosed at p. 21, lines 21-25.

The Prior art of references of Hassoun, "Fundamentals of Artificial Neural Networks", 1995 in view of Ejiri et al. (Ejiri) (USPN: 4,972,473) discloses a method of training a neural network to perform decoding of a time-varying signal comprising a sequence of input symbols, which is coded by a

convolutional coder such that each coded output symbol depends on more than one input symbol.

*Hassoun and Ejiri* do not teach the distinguishing features: "the input symbol is transmitted together with the plurality of output symbols to a communications network decoder", "the input symbol is transmitted together with the plurality of output symbols to a communications network for decoding encoded communications" and "wherein at least one of the input symbols is transmitted to the communication network decoder together with the coded output symbols, and fed to its inputs together with the fed-back decoded symbols" as specified in independent claims 1, 3 and 4 of the instant application, respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

/Nathan H. Brown, Jr./

Examiner, Art Unit 2121

/David R Vincent/

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